EXPLAINING FAILURE OF E-GOVERNMENT IMPLEMENTATION IN DEVELOPING COUNTRIES: A PHENOMENOLOGICAL PERSPECTIVE

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ABSTRACT
The empirical evidence indicates that most e-government implementation in developing countries suffer from either total or partial failure. Drawn upon the concepts offered by phenomenology and taking into account the design-reality gaps and e-government dimensions proposed by Heeks (2003), this paper attempts to seek a fresh explanation of the phenomenon of e-government failure. Phenomenology as a theory, along with hermeneutics, offers a clear explanation on why e-government implementation fails. A better understanding of this phenomenon is expected to be useful to increase the chance of success and at the same time to reduce the risk of e-government failure.

Keywords*: phenomenology, hermeneutics, e-government failures, developing countries*

1. INTRODUCTION

Countries in the world have been investing a lot of resources in implementing e-government[1] in various levels and aspects. While some governments have been successful in implementing e-government initiatives, many initiatives fail to live up to expectations (Heeks, 2003). Heeks (2003) finds that 85% of e-government initiatives in developing countries are either total or partial failure. As Abel-Hamed and Madnick (1990; p. 39) assert that, "We continue to produce too many project failures, marked by cost overruns, late deliveries, poor reliabilities, and user dissatisfaction". Although this claim is from 1990s, the situation today still remains the same as indicated in the literature (see e.g., Goldfinch, 2007; Bartis and Mitev, 2008; Conboy, 2010).

Efforts have been made to investigate factors responsible for these failures. Conboy (2010) finds that a loose budgetary control is one of the reasons; while Pan et al. (2006) unveil that escalation of commitment take part in the failure. In the context of e-government implementation in developing countries, the reasons are even more complicated. For instance, Heeks (2003) argues that the main reason why such implementations fail is the existence of design-reality gap. This gap is as a result of the differences between what is considered to be necessary or important in the design stage and the reality into which the system will be transferred.

Against the backdrop of this phenomenon, it is believed that if sufficient explanation of these gaps could be identified to reduce them, then the failure rate could be minimized. This paper is one that aims to offer such explanation, by offering phenomenology as an alternative lens. Phenomenology has been used as an alternative underlying philosophy in investigating various aspects in the IS field, from using it as a base for system analysis (Kosaka, 2010), system design (Boland and Day, 1989; Svanæs, 2001; Heeks, 2002b; Nissen et al., 2007; Whitaker, 2007), IS implementation (Myers, 1994), and system evaluation (Introna and Whittaker, 2002).

Drawing upon these studies, and taking e-government as a specific instance of information systems (IS), this paper seeks to answer the following questions: *how phenomenology can be used as a lens in explaining failure in e-government implementation in the context of developing countries*?

The rest of the paper is organized as follows. The next section describes failure in e-government implementation as an object under analysis. Phenomenology as a theory is elaborated in the subsequent section, along hermeneutics, and both are used as a lens to explain e-government implementation failure. Concluding remarks bring this paper to an end.

2. FAILURE OF E-GOVERNMENT IMPLEMENTATION

Implementation of IS, in which e-government is a specific instance of its application, could be approached from various ways. Myers (1994) argues that generally, there are two mainstreams in IS literature when researching IS implementation: factor

[1] In this paper, e-government is seen in a broad sense using the definition introduced by the World Bank (http://go.worldbank.org/M1JHE0Z280): "E-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions."

research and process research. Factor research which have tried to identify possible determinants of IS implementation success is considered to be disappointing due to lack of consistency. Only a few factors have been shown to be important across multiple studies. Factor research is concluded to be too narrow. Conversely, process research has focused on the development of IS projects. The focus of the research includes the relationship between the designers and the users of an IS, and the impact of the systems on the organization. The most important finding of this research is that the process matters (Myers, 1994).

From a different point of view, Keil (1988) as cited in Myers (1994) suggest three models of IS implementation based on the nature of causality as a basis. The three models are: (a) implementation as technology acceptance; (b) implementation as organizational change; and (c) implementation as organizational problem solving involving mutual adaptation. The first model is factor oriented and fails to capture organizational issues. On the contrary, the second model virtually ignores technological issues, while the third model does not provide a framework to examine technological and organizational adaption in a balanced way (Myers, 1994).

In the context of e-government, as aforementioned, Heeks (2003) identifies three archetypes of situation where its implementation fails, i.e.,

1. Hard-soft gap: the differences between the actual technology (hard) and the reality of the social context (e.g., people, culture, politics, etc.) in which the systems operates (soft).
2. Private-public gap: the differences between systems designed for the private sector and the reality of the public sector into which the system is transferred (e-government could considered as applying e-business principles in the public sector).
3. Country-context gap: the differences between a system designed in a developed country or context and the reality of the developing countries into which the system is transferred.

Furthermore, according to Heeks (2003), e-government projects consist of seven dimensions that are necessary and sufficient to provide an understanding of design-reality gaps. The dimensions are: (1) information; (2) technology; (3) processes; (4) objectives and values; (5) staffing and skills; (6) management systems and structures; and (7) other resources: time and money (summarized in the ITPOSMO acronym). Putting these dimensions together with the notion of gaps produces an understanding on the success and failure of e-government. The greater the gap between these seven dimensions in the design and the reality, the greater the possibility of failure.

3. EXPLAINING E-GOVERNMENT FAILURE THROUGH PHENOMENOLOGICAL LENS

The positivist stance that dominates approach in IS research (Orlikowski and Baraoudi, 1991), including e-government research (Heeks and Bailur, 2007), does not take into account the ever-changing interaction between people, organization, and technology. As stated by Orlikowski and Baraoudi (1991; p. 13), the positivist approach imported from natural science ignore the fact that people think and act, that people are active makers of their physical and social reality. Borrowing Heeks' term, this approach will create a gap.

Phenomenology can be used either as a method of investigation or as a theory in which new findings could be grounded upon (Iiharco, 2004). This paper will use it as a theory or lens to explain failure of e-government implementation. For the sake of brevity, this paper will focus on several important concepts offered by phenomenology to explain the e-government implementation failure. Here, the concepts of phenomenology refers not only to those proposed by Hussels that focus on the phenomena as they appeared through consciousness, but also incorporates concepts by other phenomenologists such as Heidegger with his hermeneutic phenomenology and the concept of circle of understanding and Gadamer who introduces the concept of circle of the whole and the parts (Grondin, 2002; Laverty, 2003; Butler and Murphy, 2007).

Transcendence versus immanence

As asserted by Ghallager and Zahavi (2008; p. 21), "the phenomenon is understood as the immediate 'givenness' of the object, how it appears to us, how it apparently is". The description of reality is obtained through perception as an intentional object (Weyl, 1952). In this view, the reality of the object is not to be located behind its appearances, as if the appearance in some way or the other hides the real object. It is said that there is a phenomenological reduction, which can be achieved by 'bracketing out' the features, aspects, and characteristics of the actuality of the phenomenon (Ilharco, 2004).

Perception in consciousness is the result of this process (Illharco, 2004). Through intersubjective-corroboration, the perception of an object that has been constituted could become more universal and shareable (Ghallager and Zahavi, 2008). Although the distinction between appearance and reality must be maintained (since some appearances are misleading), phenomenologists do not understand these as two separate realms (Ghallager and Zahavi, 2008). Instead, intentionality is used to show the distinction between physical phenomenon – which is transcendental – and subjective one – which is immanent (Kosaka, 2010).

By understanding this, a person perceives what is transcendent (i.e., the reality of the object) by consti-

tuting in the immanence (i.e., the perception) (Kosaka, 2010). This perception, as an immanent international object, revealed through cognitive process is then taken into consideration when doing subsequent tasks. In the context of e-government, the perception of what are the requirements of the systems and of what the ultimate goal of its use, are brought into the design process stage.

Failing to understand the e-government phenomena could lead to problems in system design. From this viewpoint, the hard-soft gap and the country-context gap are the result of lack of understanding of the social context in which e-government is implemented. The intentional immanent perception of the context for some reasons or the other fails to approach the transcendental object (i.e., the implementation context).

For instance, conventional orientation considers that the focal product of systems design is an IS artifact(s) to be employed by workers, while from phenomenological stance, the product is a revised work milieu better accommodating and facilitating worker praxis (Whitaker, 2007). In this sense, implementation could be considered as technology acceptance (Keil, 1988), since using the phenomenological viewpoint, the rate of technology acceptance could be increased. Hence, Whitaker (2007) argues for the application of phenomenological ideas in the opening phases of the IS project. These ideas pertain to the worker's subjective experience, and this experience is more relevant to initially understanding the problem rather than subsequently constructing a solution.

Departing from different viewpoints, criteria of evaluation of the systems will also differ. Conventional orientation put emphasize on usability of the system (i.e., how well the human user operates the IS artifact in and of itself, often without regard to the work itself), while phenomenological orientation pays attention to utility (i.e. the degree to which the worker can engage work subject matter and execute tasks with minimal attention to the artifact itself) (Whitaker, 2007). Here, e-government implementation might be seen as organizational change (Keil, 1988). As noted by Heidegger (1978) – cited in Dada (2006; p. 2) – "The essence of technology is not something technical, or a means to an end. Instead, the essence is a revealing that challenges the world by ordering it or creating a concrete infrastructure". In short, we could conclude that different points of departure as a result of different perceptions will shape the resulted systems differently.

The private-public gap, in this sense, could be understood as the lack of intersubjective-corroboration which yields a less universal understanding of a phenomenon. Public and private contexts are two different objects that result various perceptions. Applying subjective perception obtained from the private sector context to build systems uncritically without taking into account other subjective perceptions from the public sector context, transferring the systems into the public sector could create implementation problems. From the phenomenological viewpoint, technology design should be context-aware (Svanæs, 2001). The context is defined as any information that characterizes a situation related to the interaction between users, applications, and the surrounding environment (Dey et al., 2001).

Further, Heeks (2002a, p.109) asserts that "Information and communication technologies need to be justified and understood in the context of a broader vision and necessity for e-government in Africa [research site] … The keywords for such projects must be 'customized' not 'off-the-shelf'; 'adapt' not just 'adopt'." In other words, phenomenologically, Heeks (2002b) proposes that in an attempt to avoid failure, the design of systems should be the representation of an intentional future.

In addition, immanence where constituting takes place is absolutely immanence, and not transcendence, and hence it implies the character of the endlessness of cognition (Kosaka, 2010). In this context, a better understanding on how technology and social context (i.e., government organization) adapt to each other is critical. Orlikowski and Baroudi (1991) caution that the relationship between people, organizations, and technology are not fixed but constantly changing, and they will continue to change. This issue will be explained by the hermeneutic 'circle of understanding' as follows.

The circle of understanding

Gadamer (1975) – cited by Butler and Murphy (2007) – argues that the means of understanding 'whole/part' relationships possesses a circular structure, i.e. hermeneutic circle of understanding as in Heidegger's term (Grondin, 2002). Understanding (*Auslegung*) is guided by interpretation (*Vestehen*) of a phenomenon (the hermeneutics 'whole') that begins with by examination of its component phenomena (the 'parts') (Grondin, 2002). As implied by its definition and empirical evidence, e-government could be considered as a system that consists of many subsystems. In this context, e-government systems are the hermeneutics 'whole', while e-government dimensions/subsystems are the 'parts'.

Drawing upon phenomenology and hermeneutics, Boland (1991) proposes that IS should be considered as texts that need to be interpreted. Although originally hermeneutic phenomenology dealt with the interpretation of literary, judicial, and theological text, in contemporary social science, as Myers (1994) argues, the focus has broadened to look at societies, culture, and organizations as text analogues. As a specific application of IS in public sector and an organization, e-government could also be considered as texts. This notion is based on assumptions that like IS, e-government could be constituted by communication acts. E-government, as an or-

ganization, can be seen as networks of recurrent and recursive conversation between individuals and groups of individuals (Mingers, 2001). In the context of e-government implementation, the individuals or the groups of individuals are represented by e-government stakeholders: the government (including the employees), the business, and the citizens.

According to Mingers (2001; p. 111), the conversation is composed of speech acts involving requests, promises, commitments, and declarations coordinating general activities and the conversations themselves. Hence, in this context, as cited by Silva (2007), Boland (1991) argues that the result of the conversation is not representing an objective truth, but rather it is an IS embodies an objective reality and therefore it still needs to be interpreted by users.

Applying these concepts, the aforementioned seven ITPOSMO dimensions are considered as the hermeneutics 'parts'. These dimensions are the texts that need to be interpreted. Interpreting the texts, by assessing these dimensions will help us to determine what should be done in future to increase the chances of success or reduce the risk of e-government failure. The interpretations could be considered as 'ready-to-hand' (*Zuhanden*)(Butler and Murphy, 2007). In this stage, the phenomenon appears to be perfectly understood, and need no further interpretation, since the ontological status of the phenomenon is 'ready-to-hand'.

However, once the design is made, the phenomenological viewpoint equips us with the awareness that it is almost impossible for a user to perform a complete sequence of action to accomplish certain tasks strictly according to a predetermined plan as designed (Ng, 2002). As e-government is a dynamic phenomenon and not static, user actions are shaped by the ad hoc and local contingencies of situation (Ng, 2002). In this situation a gap emerges, so-called 'breakdown' (Butler and Murphy, 2007). The existing 'ready-to-hand' interpretation is not sufficient to explain the 'breakdown', and hence the phenomenon calls for other theoretical reasoning, and transforms its status into 'present-at-hand' (*Vorhanden*). When the phenomenon is 'present-at-hand', it needs to be reinterpreted. In this sense, implementation is seen as organizational problem solving involving mutual adaptation (Keil, 1988).

Hence, in the context of e-government, the hermeneutic 'parts' (i.e., ITPOSMO dimensions) should be assessed not only at the beginning of the project phase, and at the same time the assessment should take the 'whole' phenomenon into consideration, to result an integrated understanding. This is important since integration is one of main challenges in e-government implementation in developing countries, due to various reasons such as organizational complexity and fragmented and uncoordinated organizational structures (Braa, 2007).

E-government implementation in East Africa could provide another illustration (Heeks, 2003) on the importance of considering both the 'parts' and the 'whole' of the phenomenon. The systems implemented could provide useful information to support decision making, meaning that the information dimension gap is said to be at a minimum. But, in the reality, management systems and structures dimension is not ready. The system could produce useful information, but this information is not well utilized by the decision makers. When management systems and structures dimension are in place through various initiatives taken, other dimensions should be also re-evaluated, since e-government environment has a character to continue to change. Therefore, continuous analysis, development, and evaluation are a prerequisite for the constituting of social reality (Kosaka, 2010). Failure in doing this would lead to the problem of e-government sustainability, which is one of general problems in IS implementation in developing countries (Braa, 2007).

4. CONCLUDING REMARKS

This paper has discussed phenomenology and applied it as a theory to explain failure in e-government implementation with special reference to the context of developing countries. The design-reality gaps as the main reason behind the failure and the ITPOSMO dimensions have been given a fresh interpretation through the phenomenological lens, by applying some important concepts from phenomenology.

However, as stated in the outset, this paper has focused only on certain concepts offered by phenomenology. Going deeper into the presented concepts (such as on 'situated-ness' (Ng, 2002); 'understanding as application and translation'; Grondin, 2002) and applying other relevant concepts (such as 'fore-sight', pre-acquisition', 'pre-conceptuality', 'prejudices'; Grondin, 2002), may give a richer explanation of the phenomenon of e-government implementation failure, which in turn will provide a better understanding how to increase the chances of success and in the same time reduce the risk of e-government failure.

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